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Mineral Industry Surveys

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LEAD IN APRIL 2000

Domestic mine production, based upon the net quantity of lead recovered in the smelting of concentrate, decreased by 13% compared with production in March. Secondary refinery production remained essentially unchanged in April, and was at a level similar to that of April 1999. Reported consumption declined by about 2% in April compared with that of the previous month.

According to *Platt's Metals Week* published quotations, the average North American producer price and the average London Metal Exchange (LME) cash price (U.S. dollars) declined by 0.14% and 4.56%, respectively, in April.

Lead production in North America continued at a relatively steady pace in April as demand decreased slightly and prices inched lower. Some producers predicted that the current oversupply of lead would not be eased in the short term and could possibly last into 2003. Battery manufacturers essentially completed their stock reductions during the month and were beginning to prepare for the summer battery season. At least one major integrated producer-battery manufacturer believed that 2000 should prove to be a good year for battery demand. In Europe, lead demand was surprisingly strong in April. Most lead producers reported that both battery and non-battery consumers were purchasing lead at increased levels. However, while a generally brighter economic picture in Europe was believed to have caused some of the increase in lead demand, there was speculation that the unusual buoyancy in the market might also have been due, in part, to consumers taking advantage of the current low lead prices to purchase additional lead on the spot market (Ryan's Notes, 2000; CRU International Ltd.,2000).

The National Defense Stockpile monthly cash disposal (sale) of lead in April was 1,070 metric tons (1,179 short tons). Sale of lead in the first 7 months of fiscal year 2000 (October 1999 through April 2000) was 27,400 metric tons (30,203 short tons).

The Doe Run Co., St. Louis, MO, announced in mid-April that the company planned further cutbacks in production at its Missouri lead facilities. According to a company spokesperson, the latest move, coupled with Doe Run's earlier cutbacks announced in January, would reduce production of lead-in-concentrate by about 45,000 to 50,000 metric tons this year. As a result of the latest action, two mills will be placed on care and maintenance status and operations at three of the mines will be reduced. In order to maintain full production at the company's two smelter-refineries, Doe Run will continue to purchase concentrates from the market. The two mills could be returned to operation if lead prices improve. Production could also be increased at the three mines, although, reportedly, they have a fairly limited life span remaining (Metal Bulletin, 2000a).

Exide Corp., Reading, PA, recently confirmed that it planned to sell its Gast secondary lead smelter in France. The decision to sell the facility was made a few months ago, and was said to be part of a move by Exide to scale down its global operations. The Gast smelter, located about 50 kilometers from Paris, produces about 25,000 metric tons per year of recycled lead from spent lead-acid batteries. Exide had purchased the Gast facility from Paris-based Cie Européene d'Accumulateurs SA in 1995 (Metal Bulletin, 2000b).

The State of Massachusetts recently began enforcing a ban on the disposal of cathode ray tubes (CRTs) at landfills, transfer stations and incinerators. The action was taken by the State's Department of Environmental Protection as a measure to prepare for the projected significant increase in the level of CRT disposals in unwanted older televisions and computer monitors. One of the factors considered in the State's concern over the disposal of the CRTs is the environmental consequences of the relatively high lead content associated with them. The lead, an important material in CRTs that protects the consumer from exposure to harmful radiation, is present in CRTs at a level of about 2 to 4 kilograms. Environmental officials in Massachusetts were hopeful that the ban on discarding CRTs would prompt a strong interest in reuse and recycling of CRT components (American Metal Market, 2000).

Australia's Western Metals reportedly will begin closing its Hellyer Mine in Tasmania owing to the depletion of reserves at the mine. Processing of the mined ore was expected to be completed in June, at which time the facilities would be placed on care and maintenance status. During the last 3 months, operations at the

Hellyer Mine yielded 20,400 metric tons of zinc and 7,600 metric tons of lead in concentrate. In other recent events at Western, heavy rains and associated flooding served to significantly curtail Western's overall mining operations at its Lennard Shelf facilities in Western Australia during the first quarter of the year. In addition to the reduction in lead and zinc production during this period, shipments of concentrate also were halted for 17 days when a major highway was closed as a result of the heavy rains (Metal Bulletin, 2000f).

Israel's Hakurnas, a secondary lead producer near Ashdod, reportedly intends to proceed with the expansion plan to increase lead-acid battery recycling that it first announced in January of this year. According to a company spokesperson, the move to expand has been made in response to the increase in demand for lead by the automotive battery producers in Israel and other parts of the Middle East, as well as to the projected increase in demand for lead-acid batteries in electric vehicles during the next 10 years. Should expansion plans continue on schedule, increased production at Hakurnas is expected to begin in early fall 2000. Hakurnas expects a significant domestic supply of spent lead-acid batteries for its operation, in view of Israel's stringent battery collection system that currently supports the recycling of 95% of the lead consumed in the manufacture of batteries (Metal Bulletin, 2000c).

The Privatization Agency of Bulgaria (BPA) has reported the receipt of only one bid for the 80% stake in the KCM primary lead-zinc smelter near Plovdiv. The bid was received from KCM's management through KCM-2000, a separate entity formed so that KCM could participate in its own privatization. Should the bid be accepted, KCM-2000 would receive preferential purchase terms with payments for the smelter extended over a 10-year period and no payment due during the first year. The BPA had resumed efforts to privatize KCM in March 2000 following a failed attempt to privatize it in August 1999 (Metal Bulletin, 2000e).

The Indian Government reportedly has undertaken a number of steps to ease the regulatory burden on secondary lead and zinc smelters who rely on imported material as a significant source of supply for their operations. One of the measures taken has been to amend the Customs Act whereby material classified as hazardous waste under the Basel listing, such as lead-acid scrap batteries and zinc ash, can be sold to recognized processors in India rather than be returned to their point of origin. The Indian Government also has introduced a licensing scheme for lead and zinc processors. Upon plant inspection and government acceptance, operating licenses can be obtained lasting from 3 to 5 years (Metal Bulletin, 2000d).

The U.S. Army's "21st Century Truck Initiative" will include the development of a more efficient, heavy-duty truck that is powered by a hybrid propulsion system. The system to be evaluated will combine a 460-horsepower diesel engine with two 250-horsepower electric motors powered by lead-acid batteries. Contractors building the hybrid-powered truck are expected to deliver the demonstrator truck model to the U.S. Army for practical testing by December 2000 (ITE Letters, 2000).

References Cited

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CRU International Ltd., 2000, Market commentary: CRU Monitor—Lead, April, p. 3.

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Metal Bulletin, 2000a, Doe Run makes further cuts as low lead price takes its toll: Metal Bulletin, no. 8470, April 27, p. 6.

———2000b, Exide puts French lead smelter up for sale: Metal Bulletin, no. 8466, April 10, p. 13.

———2000c, Hakurnas goes ahead with lead expansion: Metal Bulletin, no. 8465, April 6, p. 10.

———2000d, India gradually opens customs barriers to zinc ash imports: Metal Bulletin, no. 8464, April 3, p. 12.

———2000e, Management makes sole bid for KCM: Metal Bulletin, no. 8464, April 3, p. 5.

———2000f, Western Metals to close zinc-lead mine: Metal Bulletin, no. 8470, April 27, p. 7.

Ryan's Notes, 2000, Lead and zinc—Lead faces a bleak future: Ryan's Notes, v. 6, no. 18, May 1, p. 5.

TABLE 1
SALIENT LEAD STATISTICS IN THE UNITED STATES 1/

(Metric tons, unless otherwise specified)

	1999		2000		
	January - December p/	January - April	March	April	January - April
Production:					
Mine (recoverable)	505,000	172,000	43,000 r/	37,500	153,000
Primary refinery	NA	NA	NA	NA	NA
Secondary refinery:					
Reported by smelters/refineries	1,050,000	345,000	89,000	89,300	353,000
Estimated	14,300	5,660	839	902	6,510
Recovered from copper-base scrap e/	15,000	5,000	1,250	1,250	5,000
Total secondary	1,080,000	355,000	91,100	91,400	362,000
Stocks, end of period:					
Primary refineries	XX	XX	NA	NA	XX
Secondary smelters and consumers	XX	XX	70,400	43,200	XX
Imports for consumption:					
Ore and concentrates (lead content)	12,300	1,950	3,510	NA	4,060 2/
Refined metal	311,000	89,700	21,300	NA	98,600 2/
Consumption:					
Reported	1,580,000	529,000 r/	132,000	130,000	526,000
Undistributed e/	83,000	27,600 r/	6,970	6,820	27,700
Total	1,660,000	557,000 r/	139,000	136,000	554,000
Exports (lead content):					
Ore and concentrates	93,500	6,460	1,930	NA	7,150 2/
Bullion	64,100	16,500	3,170	NA	13,400 2/
Wrought and unwrought lead	37,300	11,200	4,700	NA	11,200 2/
Ash and residues	1,430	621	176	NA	2,520 2/
TEL/TML preparations, based on lead compounds	2,190	1,310	66	NA	2,730 2/
Exports (gross weight): Scrap	117,000	35,200	5,750	NA	17,000 2/
Platt's Metals Week average North American producer price (cents per pound)	43.72	43.74	43.53	43.47	43.55

e/ Estimated. p/ Preliminary. r/ Revised. NA Not available. XX Not applicable.
1/ Data are rounded to no more than three significant digits, except prices; may not add to totals shown.
2/ Includes data for January - March only; April data not available at time of publication.

TABLE 2
MONTHLY AVERAGE LEAD PRICES

	North American producer price	LME		Sterling exchange rate
	cents/lb	$/metric ton	£/metric ton	dollars/£
1999:				
April	43.77	518.98	322.58	1.608850
January - April	43.74	507.92	312.36	1.626891
Year	43.72	502.25	310.49	1.617887
2000:				
January	43.62	471.71	287.56	1.640400
February	43.56	452.02	282.52	1.599985
March	43.53	440.92	279.08	1.579900
April	43.47	420.81	265.90	1.582547
January - April	43.55	446.37	278.77	1.600708

Source: Platt's Metals Week.

TABLE 3
CONSUMPTION OF PURCHASED LEAD-BASE SCRAP 1/

(Metric tons, gross weight)

Item	Stocks March 31, 2000	Net receipts	Consumption	Stocks April 30, 2000
Battery-lead	20,700	98,300	99,100	19,900
Soft lead	W	W	W	W
Drosses and residues	3,350	5,490	5,340	3,500
Other 2/	1,750	2,390	2,240	1,890
Total	25,800	106,000	107,000	25,300
Percent change from preceding month	XX	-4.0	-4.6	-2.0

W Withheld to avoid disclosing company proprietary data; included with "Other." XX Not applicable.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Includes solder, common babbitt, antimonial lead, cable covering, type metals, and other lead-base scrap not elsewhere classified.

TABLE 4
LEAD, TIN, AND ANTIMONY RECOVERED FROM LEAD-BASE SCRAP IN APRIL 2000 1/

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	51,600	--	--
Remelt lead	W	W	W
Antimonial lead	37,100	W	W
Other 2/	W	W	--
Total lead-base	89,300	103	425

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Includes cable lead, lead-base babbitt, solder, type metals, and other products.

TABLE 5
CONSUMPTION OF LEAD IN THE UNITED STATES 1/

(Metric tons, lead content)

Uses	1999		2000		
	January - December p/	January - April r/	March	April	January - April
Metal products:					
Ammunition, shot and bullets	40,800	15,200	4,250	4,460	16,000
Brass and bronze, billet and ingots	3,790	1,250	338	321	1,330
Cable covering, power and communication and calking lead, building construction	2,790	1,550	181	237	923
Casting metals	4,660	1,630	380	358	1,500
Sheet lead, pipes, traps and other extruded products	16,200	5,280	1,540	1,470	5,640
Solder	9,460	3,350	581	808	3,080
Storage batteries, including oxides	1,430,000	479,000	120,000	117,000	476,000
Terne metal, type metal, and other metal products 2/	4,040	851	175	199	1,180
Total metal products	1,510,000	508,000	127,000	125,000	506,000
Other oxides and miscellaneous uses	63,800	21,300	5,040	5,020	20,100
Total reported	1,580,000	529,000	132,000	130,000	526,000
Undistributed consumption e/	83,000	27,600	6,970	6,820	27,700
Grand total	1,660,000	557,000	139,000	136,000	554,000

e/ Estimated. p/ Preliminary. r/ Revised.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes lead consumed in foil, collapsible tubes, annealing, plating, galvanizing, and fishing weights.

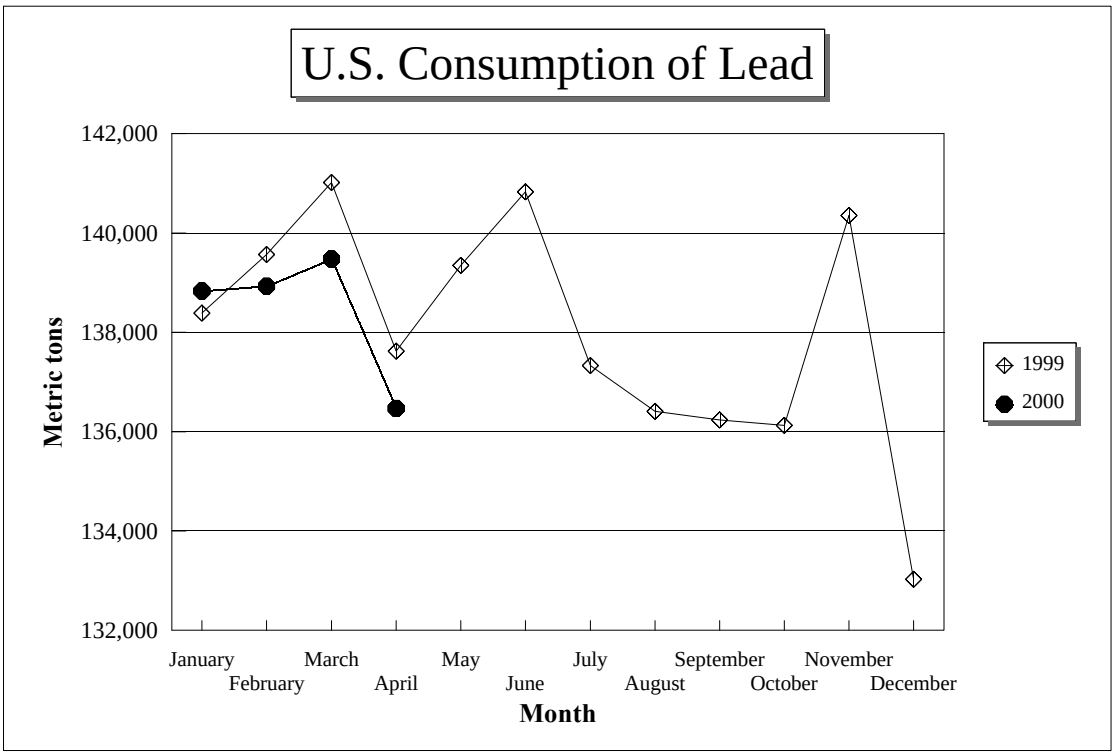

TABLE 6
CONSUMER AND SECONDARY SMELTER STOCKS, RECEIPTS, AND CONSUMPTION OF LEAD IN APRIL 2000 1/

(Metric tons, lead content)

Type of material	Stocks March 31, 2000	Net receipts	Consumption	Stocks April 30, 2000
Soft lead	31,800	75,000	75,000	31,700
Antimonial lead	24,400	33,400	33,000	24,800
Lead alloys	W	23,800	21,400	W
Copper-base scrap	W	225	227	W
Total	70,400	132,000	130,000	73,200

W Withheld to avoid disclosing company proprietary data; included in "Total."
1/ Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 7
U.S. EXPORTS OF LEAD, BY CLASS 1/

(Metric tons)

	1999		2000		
	Year	March	February	March	January - March
Lead content:					
Ore and concentrates	93,500	2,760	3,430	1,930	7,150
Bullion	64,100	3,770	4,800	3,170	13,400
Materials excluding scrap	37,300	3,030	3,070	4,700	11,200
Ash and residues	1,430	153	2,030	176	2,520
TEL/TML preparations, based on lead compounds	2,190	320	2,630	66	2,730
Total	198,000	10,000	16,000	10,000	37,000
Gross weight: Scrap	117,000	7,120	5,060	5,750	17,000

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 8
U.S. IMPORTS OF LEAD BY TYPE OF MATERIALS AND BY COUNTRY OF ORIGIN 1/

(Metric tons, lead content)

Country of origin	General imports					Imports for consumption				
	1999		2000			1999		2000		
	Year	January - March	February	March	January - March	Year	January - March	February	March	January - March
Ore, matte, etc.:										
Canada	1,220	1,220	(2/)	(2/)	(2/)	(2/)	--	(2/)	(2/)	(2/)
Mexico	1,900	--	546	1,050	1,590	1,580	--	546	1,050	1,590
Peru	8,760	787	566	1,300	3,140	193	--	--	--	--
Other	30,200	5,140	5,010	2,690	7,700	10,500	1,950	--	2,470	2,470
Total	42,100	7,140	6,120	5,040	12,400	12,300	1,950	546	3,510	4,060
Base bullion:										
Colombia	--	--	16	--	65	--	--	16	--	65
Dominican Republic	90	--	--	--	--	90	--	--	--	--
Total	90	--	16	--	65	90	--	16	--	65
Pigs and bars:										
Australia	21,900	--	--	--	15,100	21,900	--	--	--	15,100
Canada	198,000	53,200	16,600	19,800	55,300	198,000	53,200	16,600	19,800	55,300
China	47,500	--	12,400	600	24,800	47,700	--	12,400	600	24,800
Germany	1,000	95	69	86	201	1,000	95	69	86	201
Mexico	27,200	11,800	1,340	740	3,000	27,200	11,800	1,340	740	3,000
Peru	6,930	543	--	--	--	6,930	543	--	--	--
Other	8,460	782	75	66	290	8,460	782	75	66	290
Total	311,000	66,400	30,500	21,300	98,600	311,000	66,400	30,500	21,300	98,600
Reclaimed scrap, including ash and residues	--	--	--	--	25	--	--	--	--	25
Grand total	353,000	73,600	36,600	26,300	111,000	324,000	68,400	31,000	24,800	103,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.